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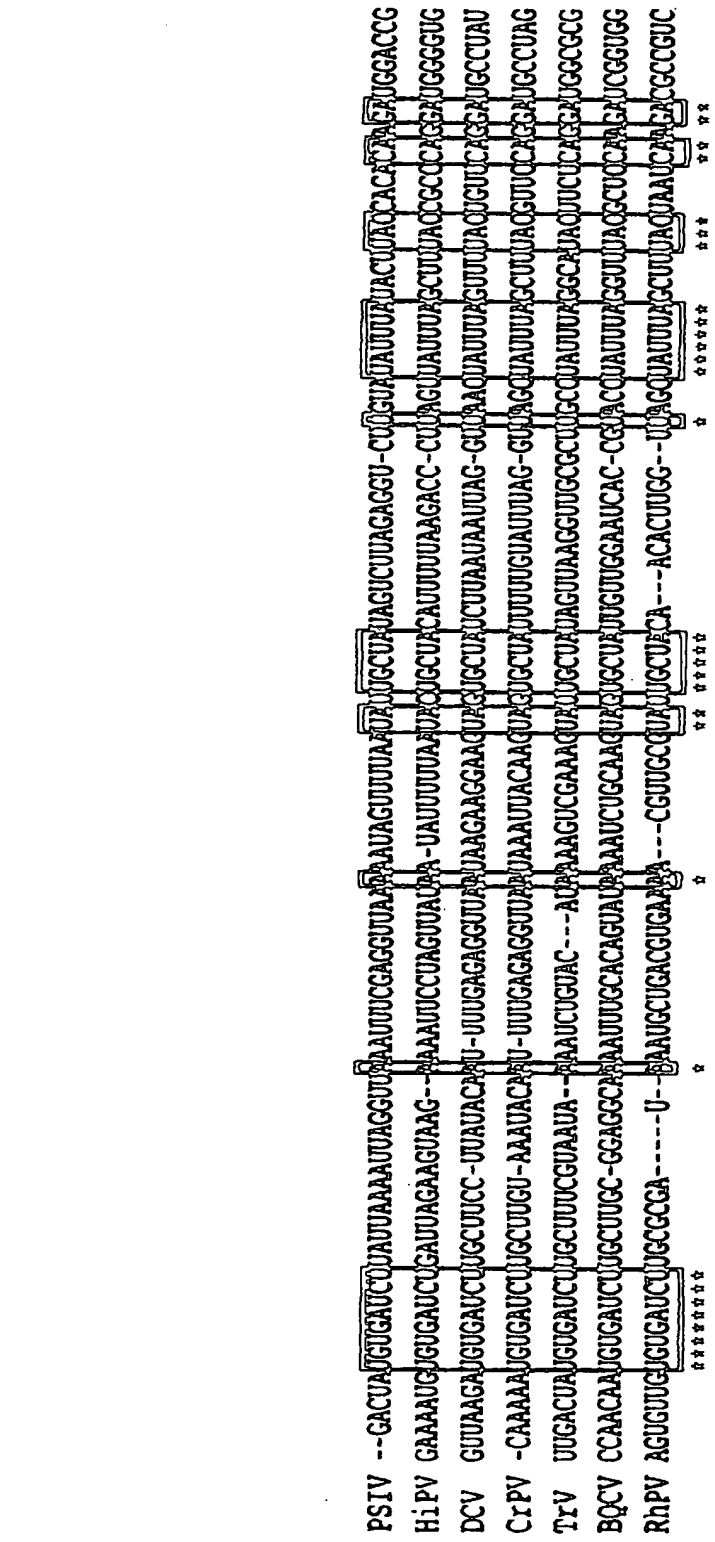
APR 22 2005
PATENT & TRADEMARK OFFICE

FIG.1



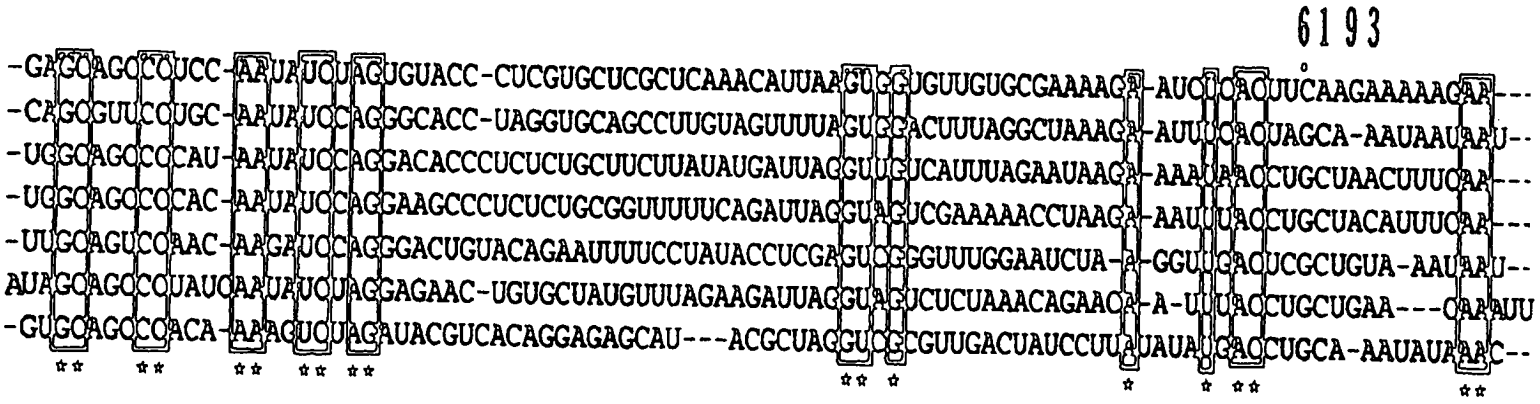
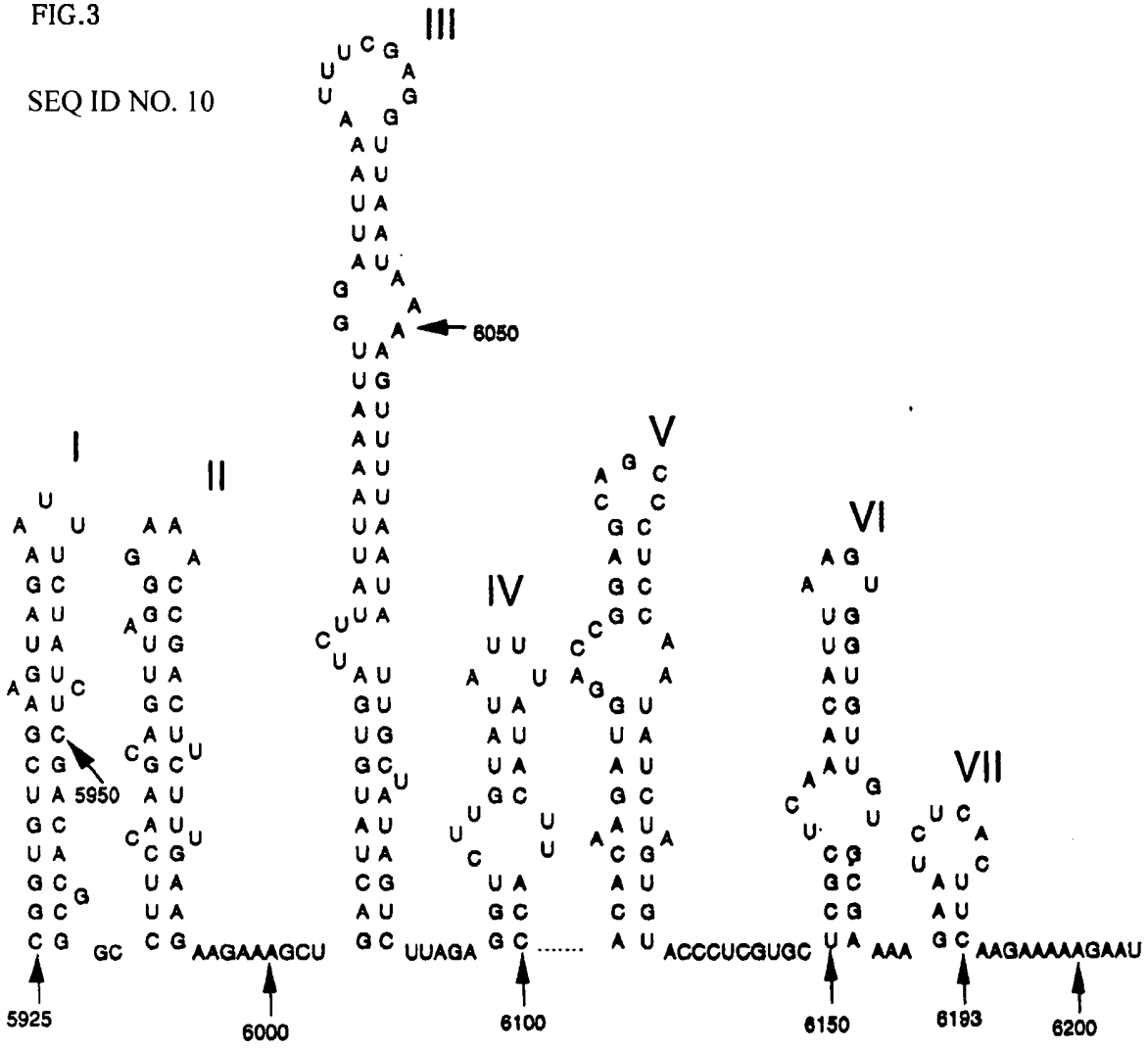


FIG.2

FIG.3

SEQ ID NO. 10



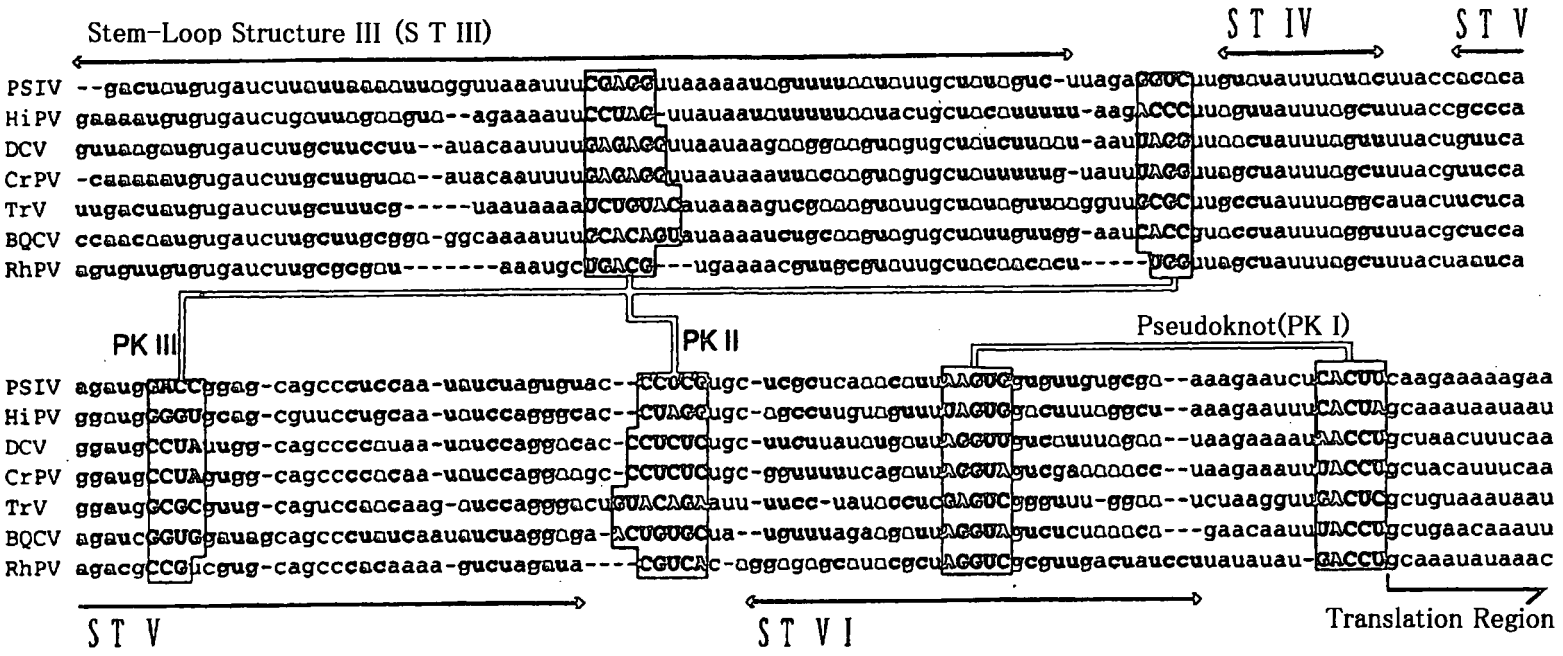

Stem-Loop Structure III (S T III)
S T IV
S T V
PSIV --gacuaugugaucuuauuaaaaauuagguuaaaauuuCGACGuuaaaaauaguuuuauauuugcuauagucuuagaCGUCuugucuauuuuauacuuaccacaca
HiPV gaaaaugugugaucugauuagaagua--agaaaauuCCUAC-uuauaaauauuuuuuauacugcuacauuuuu-aagACCCuuaguuauuuugcuuuaccgccca
DCV guuaagaugugaucuugcuuccuu--auacaauuuuGAGACGuuaauaagaaggaagugugcuaucuuuau-aauUACGuuaacuauuuugcuuuuacguuca
CrPV -caaaaaugugaucuugcuuguaa--auacaauuuuGAGACGuuaauaaauuacaagugugcuauuuuug-uauuUACGuuagcuauuuugcuuuacguucca
TrV uugacuaugugaucuugcuuucg-----uaauaaaaUCUCGUACauaaaagucgaaaguauugcuauaguuagguuCCGCuugccuauuuuggcauacuucuca
BQCV ccaacaaugugaucuugcuugcgga-ggcaaaauuuCCACAGUauaaaaacugcaagugugcuauuguugg-aauCACGguaccuauuuuggguuuacgcucca
RhPV aguguugugugaucuugcgcgau-------aaaugcUGACG---ugaaaacguugcguauugcuacaacacu-----UCGuuagcuauuuuagcuuuacuaauca
PK III
PK II
Pseudoknot(PK I)
PSIV agaugGACCggag-cagcccuccaa-uaucuaguguac--CCUCGugc-ucgcucaaacauuAACGUCguguugugcga--aaagaaucuCACUUcaagaaaaagaa
HiPV ggaugCGGUgcag-cguuccugcaa-uauccagggcac--CUAGCugc-agccuugugguuuAACUGgacuuuaggcu--aaagaauuuCACUAgcaaauaauaau
DCV ggaugCCUAuugg-cagccccauaa-uauccaggcac-CCUCUCugc-uucuuauauguauAGCUUgucauuuagaa--uaagaaaauAACCUgcuaacuuucaa
CrPV ggaugCCUAgugg-cagccccacaa-uauccaggcagc-CCUCUCugc-gguuuuucagauuAGCUAgucgaaaaacc--uaagaaaauuUACCUgcuacauuucaa
TrV ggaugGCGCguug-caguccaacaag-auccagggacuGUACAGAauu-uucc-uauaccucGAGUCggguuu-ggaa--ucuaaggguuGACUCgcuguaaauaau
BQCV agaucGGUGgauagcagcccuaucaaauauucuaggcaga-ACUGUGCua--uguuuagaagauuAGCUAgucucuaaaca---gaacaauuUACCUgcugaacaaauu
RhPV agacgCCGucgug-cagcccacaaaa-gucuagaua----CGUCAc-agggagagcauacgcuAGGUCgcguugacuauccuuauauau-GACCUgcaaauauaaac
S T V
S T V I
Translation Region

FIG.4

FIG.5

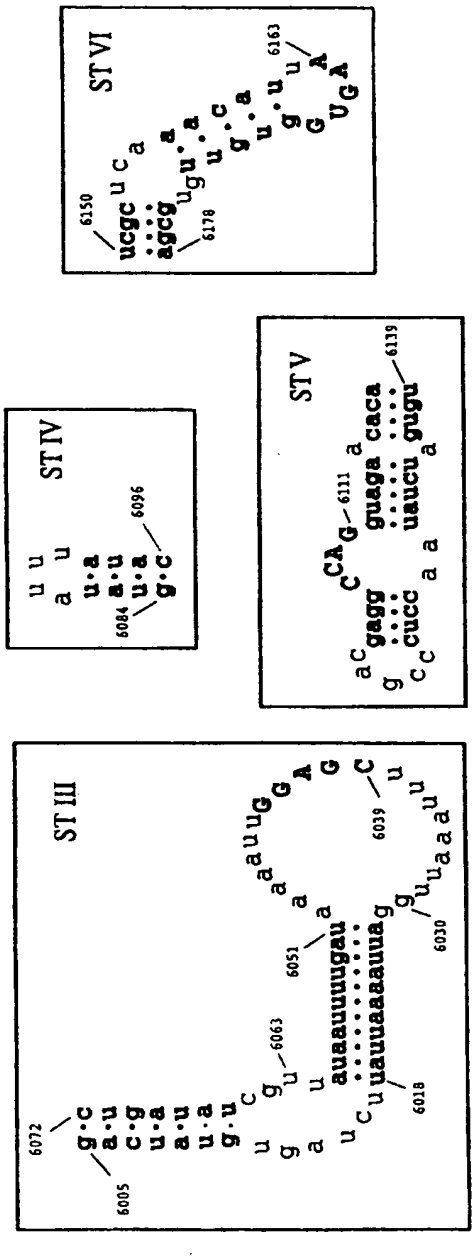


FIG.6

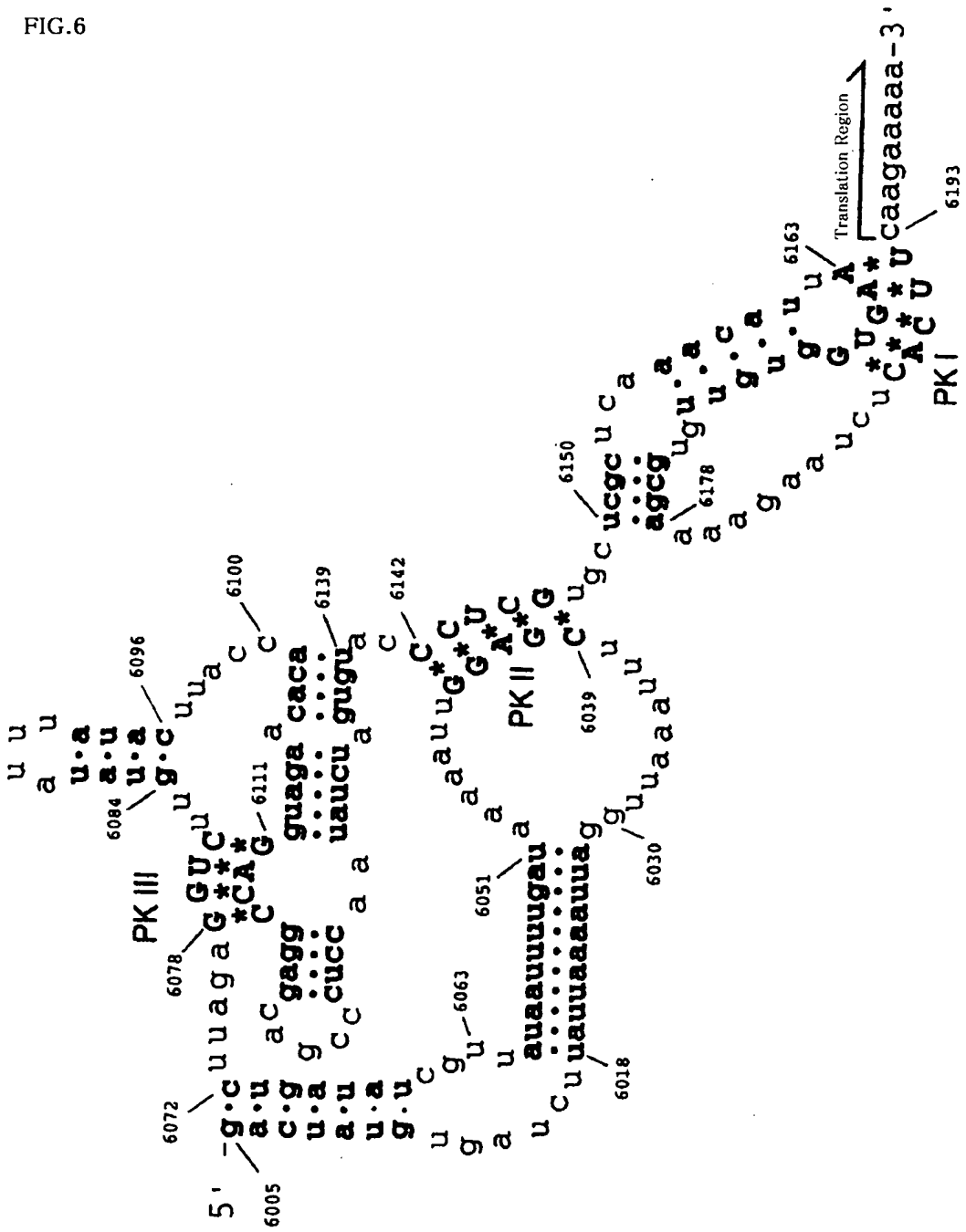

PK III
PK II
PK I
Translation Region
5'
6005
6072
6078
6084
6096
6100
6111
6139
6142
6150
6178
6163
6193
6063
6051
6039
6030
6018

FIG.7

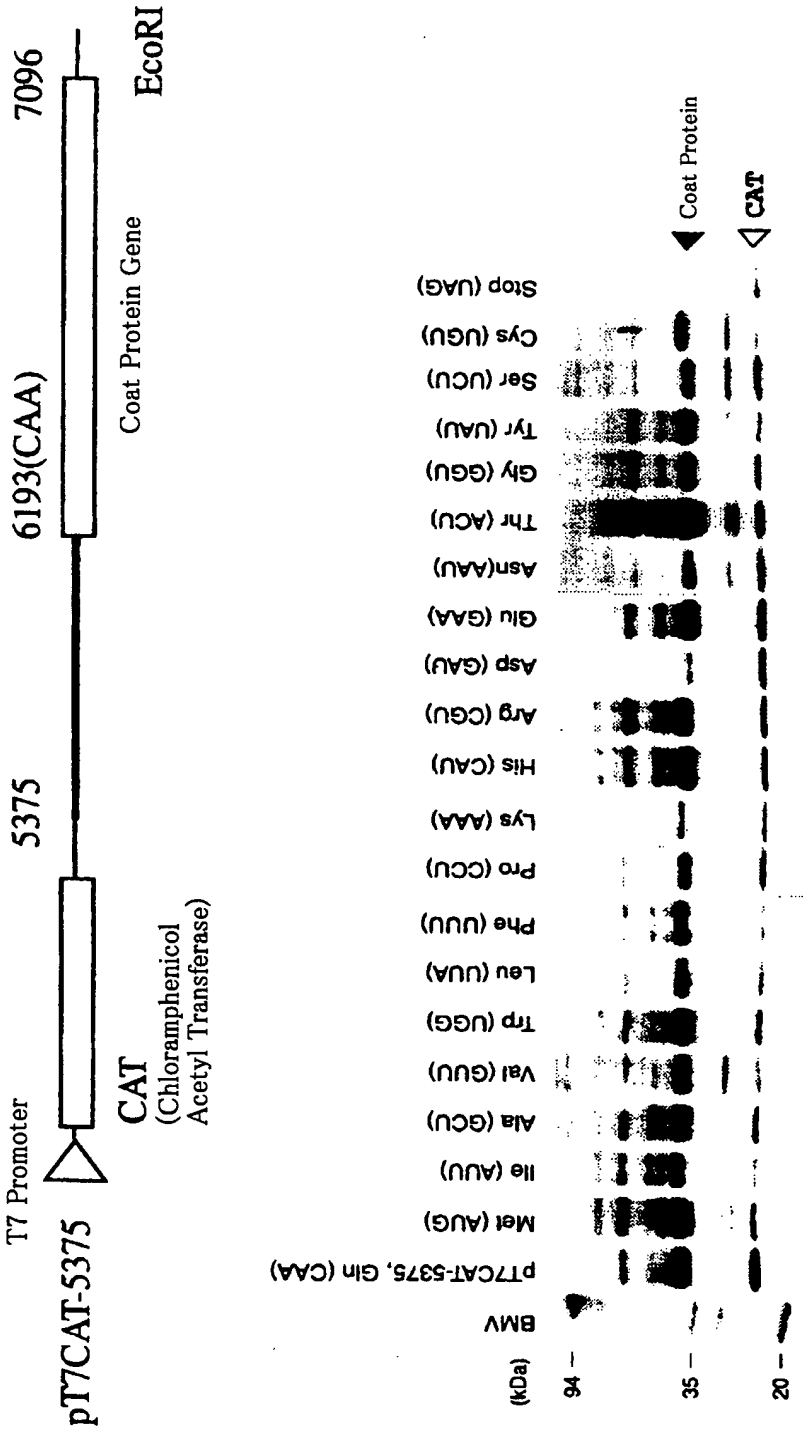
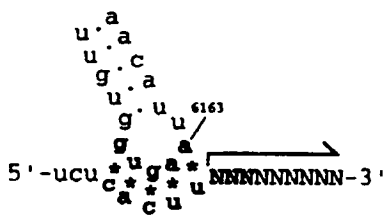

pT7CAT-5375
T7 Promoter
5375
6193(CAA)
7096
EcoRI
CAT
(Chloramphenicol
Acetyl Transferase)
Coat Protein Gene
(kDa)
94
35
20
BMV
pT7CAT-5375, Gln (CAA)
Met (AUG)
Ile (AUU)
Ala (GCU)
Val (GUU)
Trp (UGG)
Leu (UUA)
Phe (UUU)
Pro (CCU)
Lys (AAA)
His (CAU)
Arg (CGU)
Asp (GAU)
Glu (GAA)
Asn(AAU)
Thr (ACU)
Gly (GGU)
Tyr (UAU)
Ser (UCU)
Cys (UGU)
Stop (UAG)
Coat Protein
CAT

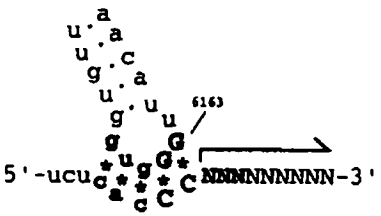
FIG.8

A



IRES (Wild Type)

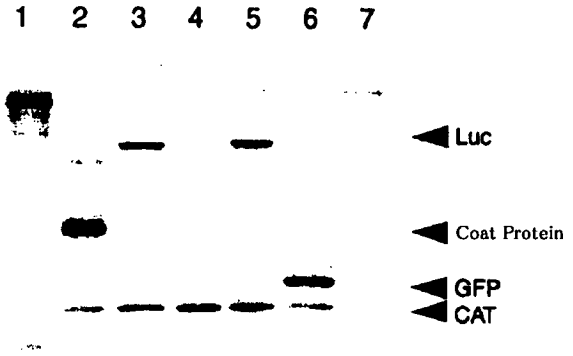
SEQ ID NO. 11



IRES' (Mutated)

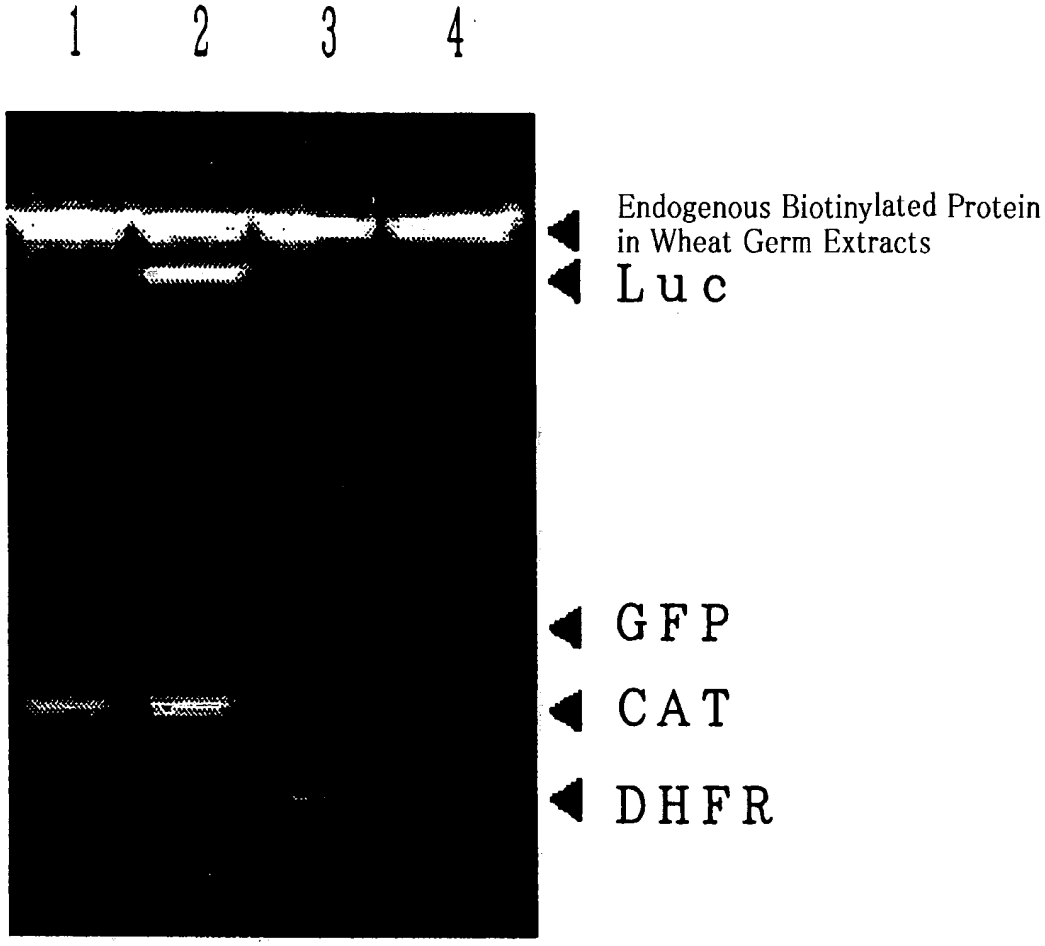
SEQ ID NO. 12

B



1. Brome Mosaic Virus RNA
2. pT7CAT-5375
3. pIRES-Luc
4. pIRES-GFP
5. pIRES'-Luc
6. pIRES'-GFP
7. RNA not added

FIG.9


1
2
3
4
Endogenous Biotinylated Protein
in Wheat Germ Extracts
Luc
GFP
CAT
DHFR